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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,099	03/03/2000	Tatsuro Akabane	Q58148	5409

7590   05/20/2003

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EXAMINER
TRAN, DOUGLAS Q

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.		Applicant(s)	
Office Action Summary	09/518,099		AKABANE ET AL.	
	Examiner		Art Unit	
	Douglas Q. Tran		2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _4-6_ is/are allowed.

6)☒ Claim(s) _1 and 7_ is/are rejected.

7)☒ Claim(s) _2,3 and 8-11_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _26 April 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _4_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers

have been placed of record in the file.

Specification

2.   The disclosure is objected to because of the following informalities: a line 24 on page 21:

numeral "3140" for a print data storage location should be numeral "204" that is indicated in fig.

17; and a line 1 on page 16: " print *job* 1310" should be "print *data* 1310" that is indicated as a

portion of the print job 1300 in fig. 11.

Appropriate correction is required.

Claim Objections

3.   Claims 9-11 are objected to under 37 CFR 1.75(c), as being of improper dependent form

for failing to further limit the subject matter of a previous claim. Applicant is required to cancel

the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the

claim(s) in independent form.

Claims 9 and 11 are proper dependent claims if Applicant deletes the limitation of "a

method of controlling" on the preamble in order for the following steps of the claim 9 are

performed by the limitation of "a print instruction section" on claim 2.

Claim 9 is a proper independent claim if Applicant deletes all of steps follows the

preamble or adds "further" between "the method" and "comprising" on the preamble in order for

the following steps are continued from "a method of controlling the print system as claimed in

claim 2".

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of

Kashiwazaki (US Patent No. 6,459,497 B1) and Mitsuhashi (US Patent No. 6,320,667 B1).

As to claim 1, Kashiwazaki teaches a print system (fig. 2 shows the print system)

comprising:

a computer (i.e., a host computer 3000 in fig. 2);

a printer (i.e., a printer 1000 in fig. 2) connected directly to the computer (3000 in fig. 2)

or indirectly to the computer via a network (col. 6, lines 38-41);

wherein the computer preparing a PDL document and print information from the

document (col. 5, line 67 to col. 6, line 4 describes that print information or a document "col. 6,

lines 42-45" together with various registration information is generated from the host and

supplied to the printer; and it is noted that the prepared document would be a PDL document

because the printer 1001 has a emulation judgment unit for judging the type of the emulation

functions of the document "col. 7, lines 58-60", and the emulation functions are described as

types of PDL documents such as PCL or Postscript "col. 1, lines 11-13") , and outputting as a

print job (since the input data from the host computer is transmitted to the printer "col. 7, lines

53-54", the input data would be a print job because it includes the PDL document and print

information), and

wherein the printer (i.e., a printer 1000 in fig. 2) comprises:

a spool control section (i.e., the input unit 18 in fig. 3) for receiving the print job spooled

(col. 7, lines 15-17 describes that the CPU 12 for controlling the transmission of the input data

from the host computer which to the input unit 18 "col. 7, lines 53-54". Thus, the input unit that

receives the print job spooled from the host computer);

a PDL processing section (i.e., the emulation judgment unit 100 in fig. 3) for processing

the PDL document in accordance with the print information of the print job (col. 7, lines 58-60

describes that the unit 100 processes the PDL document by judging one of the emulation

functions from the print job data in accordance with a control command);

an interpreter (i.e., the emulation interpreter 101 or 102 in fig. 3) for interpreting the PDL

document (col. 7, lines 63-64 describes that either the interpreter 101 or 102 for interpreting the

input data "or PDL document") and expanding (i.e., by the development unit 103 in fig. 3 would

have the same function of the expanding as the interpreter) the PDL document into a dot image

(col. 8, lines 6-8 describes that the development unit 103 develops the data from the emulation

interpreter into an image in a format of bitmap image "or dot image");

an output work (i.e., a frame memory 104 in fig. 3) for storing the dot image (col. 8, lines

6-8 describes that the frame memory 104 for the one page of bitmap image generated from the

development unit 103);

an output control section (i.e., the printer unit interface 16 in fig. 3) for controlling the

output work (col. 7, lines 45 and 8-9 describes that the CPU 12 "in fig. 2" for controlling the

entire of the printer system and controlling the output of image data to the printer engine 17.

Therefore, the CPU 12 controls the printer unit interface 16 for outputting the bitmap image data

from the frame memory 104 to the printer engine 17);

a printer engine (i.e., the printer unit 17 in fig. 3) for printing the dot image transmitted

from the output control section (col. 8, lines 9-12 describes that the printer unit 17 performs the

printing out of bitmap image transmitted from the frame memory 104 via the printer-unit

interface 16 onto a recording sheet);

wherein the document is printed in a format specified by the computer (col. 5, line 66 to

col. 6, line 7 describes that images "or a documents" is formed onto recording sheets based on a

format specified from the computer such as the print information "i.e., character codes, figure

information ..." and various registration information "i.e., font-pattern, overlay-pattern ...".

However, Kashiwazaki does not teach the computer comprises a logical printer driver for

making print instructions of a prepared document and preparing a PDL document and print

information from the document, and spooling as a print job.

Mitsuhashi, in the same field of endeavor, teaches the computer (200 in fig. 4A)

comprises a logical printer driver (203 in fig. 4A) for making print instructions of a prepared

document (col. 10, lines 13-18 and 22-24 describes that the printer driver 203 for making print

instructions of a prepared document by providing the print instructions related to the printer,

such as the drawing capability of the printer or printing resolution or printing environment

setting, to the GDI and the application 201 in order to prepare the document for printing),

preparing a PDL document and print information from the document (col. 12, lines 50-60

describes that the printer driver 203 processes the request data from the printing menu of the

application or GDI and generates the print job or PDL code string "PDL document" including a

series of command and data strings "print information from the document" "in col. 13, lines 8-

10" or "col. 10, lines 20-25"), and spooling as a print job (col. 12, lines 59-63 describes that the

PDL code string is stored at the spooler "204 in fig. 4A" for storing the print job or the PDL code

string and outputting the printing processing to the printer. Therefore, the output of printing

processing would be considered as a spooled print job. For simply understanding, the prior-art

figure 2A and col. 10, lines 13-44 describe the similar procedure as the above procedure).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the computer system of Kashiwazaki to include the print driver

for generating the print job, which includes the PDL document and its print information, spooled

to the printer as taught by Mitsuhashi. The suggestion for modifying the system of Kashiwazaki

can be reasoned by one of ordinary skill in the art as set forth above by Mitsuhashi because the

modified computer system of Kashiwazaki would increase the efficiency of the system by

providing the print driver for allowing the user to set up the print information to desired

document and then the print driver for generating the PDL document including print information.

6.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of

Kashiwazaki (US Patent No. 6,459,497 B1) and Rosenthal (US Patent No. 6,337,747 B1), Mori

(US Patent No. 6,089,765) and Mitsuhashi (US Patent No. 6,320,667 B1).

As to claim 7, As to claim 1, Kashiwazaki teaches a print system (fig. 2 shows the print

system) comprising:

a computer (i.e., a host computer 3000 in fig. 2);

a printer (i.e., a printer 1000 in fig. 2) connected directly to the computer (3000 in fig. 2)

or indirectly to the computer via a network (col. 6, lines 38-41);

wherein the computer preparing a PDL document and print information from the

document (col. 5, line 67 to col. 6, line 4 describes that print information "a document" "col. 6,

lines 42-45" together with various registration information is generated from the host and

supplied to the printer; and it is noted that the prepared document would be a PDL document

because the printer 1001 has a emulation judgment unit for judging the type of the emulation

functions of the document "col. 7, lines 58-60", and the emulation functions are described as

types of PDL documents such as PCL or Postscript "col. 1, lines 11-13") , and outputting as a

print job (since the input data from the host computer is transmitted to the printer "col. 7, lines

53-54", the input data would be a print job because it includes the PDL document and print

information), and

wherein the printer (i.e., a printer 1000 in fig. 2) comprises:

a spool control section (i.e., the input unit 18 in fig. 3) for receiving the print job spooled

(col. 7, lines 15-17 describes that the CPU 12 for controlling the transmission of the input data

from the host computer which to the input unit 18 "col. 7, lines 53-54");

a PDL processing section (i.e., the emulation judgment unit 100 in fig. 3) for processing

the PDL document in accordance with the print information of the print job (col. 7, lines 58-60

describes that the unit 100 processes the PDL document by judging one of the emulation

functions from the print job data in accordance with a control command);

an interpreter (i.e., the emulation interpreter 101 or 102 in fig. 3) for interpreting the PDL

document (col. 7, lines 63-64 describes that either the interpreter 101 or 102 for interpreting the

input data "or PDL document") and expanding (i.e., by the development unit 103 in fig. 3 would

have the same function of the expanding as the interpreter) the PDL document into a dot image

(col. 8, lines 6-8 describes that the development unit 103 develops the data from the emulation

interpreter into an image in a format of bitmap image "or dot image"

an output work (i.e., a frame memory 104 in fig. 3) for storing the dot image (col. 8, lines

6-8 describes that the frame memory 104 for the one page of bitmap image generated from the

development unit 103);

an output control section (i.e., the printer unit interface 16 in fig. 3) for controlling the

output work (col. 7, lines 45 and 8-9 describes that the CPU 12 "in fig. 2" for controlling the

entire of the printer system and controlling the output of image data to the printer engine 17.

Therefore, the CPU 12 controls the printer unit interface 16 for outputting the bitmap image data

from the frame memory 104 to the printer engine 17).   '

However, Kashiwazaki does not a dot image processing section for processing the dot

image.

Rosenthal, in the same field of endeavor, teaches the dot image (i.e., the rasterized data,

which would be called as the dot image, is rasterized from the PDL data at step of S403 in fig. 4

and col. 7, lines 17-18) is processed by a dot image processing section (step of S405 "in fig. 4"

processes the rasterized data "or the dot image" according to the lossless compression. The step

of S405 for compression is performed by the CPU "31 in fig. 3, and col. 6, lines 63-64".

Therefore, the CPU 31 has the same function as a dot image processing section for processing

the dot image).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the CPU 12 "in fig. 2" of Kashiwazaki has a function for

processing the dot image by the CPU as taught by Rosenthal. The suggestion for modifying the

printer system of Kashiwazaki can be reasoned by one of ordinary skill in the art as set forth

above by Rosenthal because the modified printer system of Kashiwazaki would increase the

functionality of the CPU for compressing the rasterized image data. The resultant systems are

directed to a system for improvement the efficiency and quality of digital image

compression/decompression system that are used in the printer.

Although Kashiwazaki teaches RAM 19 "in fig. 2" is used as a main memory and a work

area for the CPU (col. 7, lines 19-20), Kashiwazaki does not teach RAM 19 is used as an archive

for storing the print job.

Mori, in the same field of endeavor, teaches an archive (i.e., the printer job management

table T2 in col. 5, lines 20-28) for storing the print job (col. 3, lines 18-26 describes that the

printer job management table T2 is stored in the RAM 13 of the printer "10 in fig. 3" and the

print jobs is listed in the table T2 "col. 5, lines 17-28 and 35-38).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the RAM 19 of Kashiwazaki as an archive for storing the print job

as taught by Mori. The suggestion for modifying the RAM of Kashiwazaki can be reasoned by

one of ordinary skill in the art as set forth above by Mori because the modified printing system of

Kashiwazaki would increase the functionality of the printer as well as the storage capacity of

RAM by storing and keeping the print jobs from the host computer. The resultant systems would

allow the print jobs stored in the RAM to be reprinted by the request of the users from the host

computer or at the printer display device.

However, Kashiwazaki does not teach the computer comprises a logical printer driver for

making print instructions or a document prepared preparing a PDL document and print

information from the document, and spooling as a print job.

Mitsuhashi, in the same field of endeavor, teaches the computer (200 in fig. 4A)

comprises a logical printer driver (203 in fig. 4A) for making print instructions of a prepared

document (col. 10, lines 13-18 and 22-24 describes that the printer driver 203 for making print

instructions of a prepared document by providing the print instructions related to the printer,

such as the drawing capability of the printer or printing resolution or printing environment

setting, to the GDI and the application 201 in order to prepare the document for printing),

preparing a PDL document and print information from the document (col. 12, lines 50-60

describes that the printer driver 203 processes the request data from the printing menu of the

application or GDI and generates the print job or PDL code string "PDL document" including a

series of command and data strings "print information from the document" "in col. 13, lines 8-

10" or "col. 10, lines 20-25"), and spooling as a print job (col. 12, lines 59-63 describes that the

PDL code string is stored at the spooler "204 in fig. 4A" for storing the print job or the PDL code

string and outputting the printing processing to the printer. Therefore, the output of printing

processing would be considered as a spooled print job. For simply understanding, the prior-art

figure 2A and col. 10, lines 13-44 describes the similar procedure as the above procedure).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the computer system of Kashiwazaki to include the print driver

for generating the print job, which includes the PDL document and its print information, spooled

to the printer as taught by Mitsuhashi. The suggestion for modifying the system of Kashiwazaki

can be reasoned by one of ordinary skill in the art as set forth above by Mitsuhashi because the

modified printing system of Kashiwazaki would increase the efficiency of the system by

providing the print driver for allowing the user to set up the print information to desired

document and then the print driver for generating the PDL document including print information.

Allowable Subject Matter

7.   Claims 4-6 are allowed.

Claim 4 is independent claim.

The following is an examiner's statement of reasons for allowance:

As to claim 4, the present invention of the application discloses a printer comprising <u>an

output control section for controlling to store the dot image stored in the output work and the

print information in the archive as the print job</u>. The closest prior art Mori (US Patent No.

6,089,765) teaches an archive, such as the printer job management table T2 stored in the RAM,

for storing in the list of the print jobs, which are the PDL documents from the host computer.

However, the closest prior art, including an electronic text search, would not teach the above

underlined limitations. Therefore, claim 4 would be allowable.

8.   Claims 2-3, and 8-11 are objected.

Claims 2 and 3 are objected to as being dependent upon a rejected base claims 1, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The following is an examiner's statement of reasons for objecting:

As to claim 2, the prior art, taken either singly or in combination, does not teach "a print

instruction of the computer for updating the print information of the print job and making print

instructions; and an archive control section of the printer for spooling the print job from the print

instruction section of the computer".

As to claim 3, the prior art, taken either singly or in combination, does not teach " an

archive for storing a pair of PDL document and printer information and a pair of dot image and

print information as the print job.

As to claims 9, although this claim is not determined as dependent claim or independent

claim based on the reasons at the section 3 in the official action above, the Examiner considers

this claim that is a dependent claim because the limitations on steps in the claim 9 are performed

by the limitation of "a print instruction section" on claim 2. Therefore, claims 9-11 are also

objected.

Claim 8 is objected to as being dependent upon a rejected base claim 7, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and
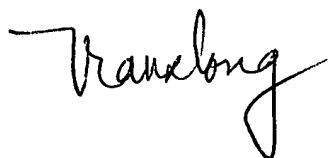
any intervening claims.

As to claim 8, the prior art, taken either singly or in combination, does not teach " the

archive stores a pair of PDL document and printer information and a pair of dot image and print

information as the print job.

Contact Information

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Douglas Q. Tran whose telephone number is (703) 305-4857 or
E-mail address is Douglas.tran@uspto.gov.
Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Douglas Q. Tran
May 16, 2003